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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,572	04/22/2004	Daniel R. Wright	MTC 6875.1 (39-21(52751)B	6729

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EXAMINER	
BROWN, COURTNEY A	
ART UNIT	PAPER NUMBER
1617	

NOTIFICATION DATE	DELIVERY MODE
02/23/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

Office Action Summary	Application No.	Applicant(s)	
	10/829,572	WRIGHT ET AL.	
	Examiner	Art Unit	
	COURTNEY BROWN	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-32,36-39,43,44,46-53,59,62,63 and 66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-32,36-39,43,44,46-53,59 and 62-63 and 66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Acknowledgement of Receipt/Status of Claims

This Office Action is in response to the amendment filed November 9, 2010. Claims 29-32,36-39,43,44,46-53,59 and 62-63 and 66 are pending in the application. Claims 1-28,33-35,40-42,45,54-58,60-61 and 64-65 have been cancelled. Claims 29,32,36,43-46,49,50 and 62 have been amended. Claims 68-70 are newly added. Claims **29 -32,36-39,43,44,46-53,59 and 62-63 and 66** are being examined for patentability.

Withdrawn Rejections

Applicant's amendments and arguments filed November 9, 2010 are acknowledged and have been fully considered.

The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application. The rejection of claims 29-44, 46-51, 64,65 and 67 under 35 U.S.C. 112, second paragraph has been **withdrawn** in view of Applicant's amendment.

Maintained Rejections

Applicant's arguments filed November 9, 2010 are acknowledged and have been fully considered.

The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The provisional rejection of claims **29-53, and 59** on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4,7-10,12-24,26-38,48,63,69-73, and 75-84 of copending Application No. 11/368,872 **is maintained**. Although the conflicting claims are not identical, they are not patentably

distinct from each other because the instantly claimed subject matter embraces or is embraced by the co-pending application 11/368,872.

Instant claims 29-53 and 59 and copending claims 1-4,7-10,12-24,26-38,48,63,69-73, and 75-84 recite the same composition comprising glyphosate or a derivative thereof, a pyridine analog or a derivative thereof (i.e. bipyridilium), and at least one surfactant. From this extensive overlap of subject matter, one of ordinary skill in the art would recognize that the same product is taught in the copending application 11/368,872.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The provisional rejection of claims **29-53, and 59** on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,9,10,11,15,16, and 17 of copending Application No. 11/227,577. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed subject matter embraces or is embraced by the co-pending application 11/227,577 **is maintained**.

Instant claims 20-53 and copending claims 1,9,10,11,15,16, and 17 recite the same herbicidal composition comprising glyphosate or a salt thereof (claims 1 and 9), a surfactant (claim 15) and a pyridine derivative (claims 16 and 17, imazapyr and triclopyr). However, the copending application discloses the use of a fatty acid component (i.e. pelargonic acid). Pelargonic acid, also known as nonanoic acid is commonly used as a herbicide. It would have been obvious to one of ordinary skill in

the art to include an additional herbicidal component in order to increase the total effectiveness of the herbicidal composition. From this extensive overlap of subject matter, one of ordinary skill in the art would recognize that the same product is produced in the copending application11/227,577 .

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The provisional rejection of claims **29-53, and 59** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 11, 13, 15, and 16 of copending Application No. 11/438,573 **is maintained**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed subject matter embraces or is embraced by the co-pending application11/438,573 .

Instant claims 29-53 and 59 and copending claim 1 recites the same herbicidal composition comprising glyphosate or a salt thereof (claim), a surfactant (claim 11) and a pyridine derivative (claims 13,16, and 16). The only difference between the instant application and that of copending Application No. 11/438,573 is the different concentrations and ratios of components used in the herbicidal compositions. It is routine optimization for one of ordinary skill in the art to adjust the amount of ingredients to optimize the desired results. From this extensive overlap of subject matter, one of ordinary skill in the art would recognize that the same product is produced in the copending application 11/438,573 .

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Examiner's Response to Applicant's Remarks

Applicant's request to hold in abeyance the nonstatutory obviousness-type double patenting provisional rejection of: claims 29-53, and 59 over claims 1-4,7-10,12-24,26-38,48,63,69-73, and 75-84 of copending Application No. 11/368,872; claims 1,9,10,11,15,16, and 17 of copending Application No. 11/227,577 and claims 1, 11, 13, 15, and 16 of copending Application No. 11/438,573 is acknowledged. However, the aforementioned nonstatutory obviousness-type double patenting rejections have been maintained.

The rejection of claims 29-32,36-39,43,44,46-53,59 and 62-63 and 66 under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US Patent 6,677,276 B1) in combination with Brigance (US 2002/0155953 A1) and Jimoh (US 2003/0004063 A1) **is maintained.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention

was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 29-32,36-39,43,44,46-53,59 and 62-63 and 66 are *rejected* under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US Patent 6,677,276 B1) in combination with Brigance (US 2002/0155953 A1) and Jimoh (US 2003/0004063 A1).

Applicant's Invention

Applicant claims an aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising: glyphosate or a salt or ester thereof; a pyridine analog herbicide or a salt or ester thereof; and, at least one surfactant; wherein the glyphosate on an acid equivalent basis and the pyridine analog (acid equivalent basis) are present in a weight ratio from 7.6:1 to about 20:1, and further wherein when the glyphosate is predominantly in the form of a salt, said salt is selected from the group consisting of a sodium salt, an ammonium salt, an alkylammonium salt, a C3-C16 alkanolammonium salt, a di- ammonium salt, an alkylamine salt, a C3-C16 alkanolamine salt, an alkylsulfonium salt, a sulfoxonium salt, and combinations thereof.

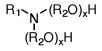
Determination of the scope and the content of the prior art (MPEP 2141.01)

Hacker et al. teach herbicide combinations (A)+(B), with an effective content of (A) herbicides from the group **(A2) glyphosate (salts)(preferably its alki metal salt s or salts with amines, in particular glyphosate isopropylammonium (see column 2, lines 20-33)** and the **sodium salt of glyphosate** (column 5, line 15) and (B) herbicides from the group (**B2)** predominantly foliar-acting herbicides, such as quinmerac, **clopyralid,** pyridate and ethametsulfuron-

methyl, which are active against dicotyledonous harmful plants (see abstract, pyridine analog herbicide of the instant application). Hacker et al. teach that synergistic effects are observed when the active ingredients (A) and (B) are applied jointly (column 3, line 6-34). Hacker et al. teach that glyphosate is usually employed in the form of a salt, preferably in the form of a monoisopropylammonium salt or a trimethylsulfoxonium salt and that the application rates of the aforementioned herbicide combination is in the range of 20 to 2000, preferably 20 to 1000, in particular **20 to 800, g of A.S./ha** (column 5, lines 13-32). Hacker et al. teach that quantitative ratios of (A2):(B2) of particular interest is from 2000:1 to 1:250, preferably from 1000:1 to 1:150, in particular from 200:1 to 1:50, very particularly preferably from **60:1 to 1:20** (column 9, lines 6-8). Hacker et al. teach that the combinations of compounds (A) and (B) can be formulated in various ways which are wettable powders (WP), emulsifiable concentrates (EC), **aqueous solutions (SL)**, emulsions (EW) such as oil-in-water and water-in-oil emulsions, sprayable solutions or emulsions, oil- or water-based dispersions, suspoemulsions, dusts (DP), seed-dressing materials, granules for soil application or spreading, or water-dispersible granules (WG), ULV formulations, microcapsules or waxes (column 13, line 66 bridging to column 14, lines 1-9). Hacker et al. additionally teach the use of surfactants (column 14, lines17 and 18) in the aforementioned herbicide combination.

Brigance teaches an adjuvant composition for pesticide formulations, particularly in N-hosphonomethylglycine (**glyphosate**) herbicidal formulations (abstract). Brigance

teaches that the adjuvant composition comprises polyoxyalkylene aliphatic amine compounds of formula (I)



Formula I

wherein R1 is an alkyl or alkenyl group having from 6 to 22 carbon atoms, R2 is an alkylene group having from 2 to 4 carbon atoms, and x and y are numbers such that x+y has an average value of from about 2 to about 50 (claims 29, 33, 37-39, 42, 51, and section (i) of claim 53, a dialkoxylated amine of instant application). Brigance teaches that the adjuvant or surfactant typically used has a concentration from about 120 to about 180 grams/L ([0017]. Brigance teaches examples of pesticides with which the adjuvant can be formulated includes **glyphosate** and **picloram** ([0018],). Brigance teaches that the water soluble salts of glyphosate such as sodium and potassium are normally used for most applications due to glyphosate's limited water solubility when in acid form [0019]). Brigance teaches making the adjuvant composition into a concentrate and diluting the concentrate with water when ready for use to form an aqueous pesticidal composition ([0018], claim 62 of instant application). Brigance teaches the herbicidal composition comprising about 50 to about 500 grams acid equivalent /L , preferably between about 360 to about 500 grams acid equivalent/L ([0069]). Additionally, Brigance teaches the formulations being used for killing and/or controlling the growth of weeds ([0020]).

Jimoh teaches stable, liquid concentrate herbicidal compositions comprising a water-soluble herbicide in a continuous aqueous phase and an oil-soluble herbicide in a discontinuous oil phase (abstract). Jimoh teaches the use of water-soluble herbicides such as **clopyralid**, picloram, triclopyr, and the especially preferred use of glyphosate or its salts (i.e. ammonium, C1-6 alkylammonium, C1-C6 alkylsulfonium, sodium and potassium, [0030]). Jimoh teaches that the liquid concentrate herbicidal composition can optionally contain more than one water-soluble herbicide in solution in the aqueous phase ([0029]). Jimoh teaches the use of oil-soluble herbicides such as **dithiopyr** and **thiazopyr** ([0011] and [0012]). Jimoh teaches the oil-soluble herbicide being present in a concentration such that the weight ratio of water-soluble herbicide (glyphosate) to oil-soluble herbicide (dithipyr and thiazopyr) ranges from about 190:1 to about 1:1 ([0038]). Additionally, Jimoh teaches the use of at least one surfactant ([0051-0055]) and a method wherein the liquid concentrate herbicidal composition is applied to weeds or unwanted plants such as kudzu ([0076]).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

The difference between the invention of the instant application and that of Hacker et al., Brigance, and Jimoh is that Hacker et al., Brigance, and Jimoh do not expressly teach a herbicidal composition wherein the concentration of the surfactant is not greater than 3.9 g/L (limitation of instant claim 37).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to arrive at an aqueous herbicidal composition comprising glyphosate or a derivative thereof, a pyridine analog or derivative thereof selected from the group consisting of triclopyr, clopyralid, dithiopyr, thiazopyr, and picloram, and at least one surfactant having a concentration not greater than 3.9 g/L. Glyphosate herbicidal combinations are well known to one of ordinary skill in the art as taught by Jimoh , Brigance, and Hacker et al. Although the aforementioned references do not teach the use of the surfactant concentrations as claimed in the instant application, absent a showing of unexpected results, it would be obvious to one of ordinary skill in the art to vary the concentration amounts depending on the desired result and plant species. Determining optimal concentrations of the herbicidal composition components is routine experimentation and is readily practiced by one of ordinary skill.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the teachings of the cited references, especially in the absence of evidence to the contrary.

New Rejection(s) Necessitated by the Amendment filed on November 9, 2010

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims **68-70** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 68-70 recite "no effective amount of organic solvent" whereas no specific support appears present in the specification. In the response filed November 9, 2010, Applicant cited page 45,lines 1-8 which specifically defines aqueous as not excluding nonaqueous solvent : "the term 'aqueous,' as used herein, is not intended to exclude the presence of some small amount of nonaqueous solvent". In addition the limitation, "effective amount" has not been described. The limitation of: " no effective amount of organic solvent", was not described in the specification as filed, and person skilled in the art would not recognize in the applicant's

disclosure a description of the invention as presently claimed. There is no guidance in the specification to select "no effective amount of organic solvent"; and from MPEP 2163.06: "Applicant should therefore specifically point out the support for any amendments made to the disclosure." Applicant has not directed the Examiner to the support in the specification for the amendments. Therefore, it is the Examiner's position that the disclosure does not reasonably convey that the inventor had possession of the subject matter of the amendment at the time of filing of the instant application

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 29,46,62 and 68-70 are *newly rejected* under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US Patent 6,677,276 B1) in combination with Brigance (US 2002/0155953 A1) and Jimoh (US 2003/0004063 A1) in view of Fiard (AU-B-10073/93).

Applicant's Invention

Applicant claims an aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising: glyphosate or a salt or ester thereof; a pyridine analog herbicide or a salt or ester thereof; and, at least one surfactant; wherein the glyphosate on an acid equivalent basis and the pyridine analog (acid equivalent basis) are present in a weight ratio from 7.6:1 to about 20:1, and further wherein when the glyphosate is predominantly in the form of a salt, said salt is selected from the group consisting of a sodium salt, an ammonium salt, an alkylammonium salt,

a C3-C16 alkanolammonium salt, a di- ammonium salt, an alkylamine salt, a C3-C16 alkanolamine salt, an alkylsulfonium salt, a sulfoxonium salt, and combinations thereof.

Determination of the scope and the content of the prior art (MPEP 2141.01)

Hacker et al. teach herbicide combinations (A)+(B), with an effective content of (A) herbicides from the group **(A2) glyphosate (salts)(preferably its alki metal salt s or salts with amines, in particular glyphosate isopropylammonium (see column 2, lines 20-33)** and the **sodium salt of glyphosate** (column 5, line 15) and (B) herbicides from the group (**B2)** predominantly foliar-acting herbicides, such as quinmerac, **clopyralid,** pyridate and ethametsulfuron-methyl, which are active against dicotyledonous harmful plants (see abstract, pyridine analog herbicide of the instant application). Hacker et al. teach that synergistic effects are observed when the active ingredients (A) and (B) are applied jointly (column 3, line 6-34). Hacker et al. teach that glyphosate is usually employed in the form of a salt, preferably in the form of a monoisopropylammonium salt or a trimethylsulfoxonium salt and that the application rates of the aforementioned herbicide combination is in the range of 20 to 2000, preferably 20 to 1000, in particular **20 to 800, g of A.S./ha** (column 5, lines 13-32). Hacker et al. teach that quantitative ratios of (A2):(B2) of particular interest is from 2000:1 to 1:250, preferably from 1000:1 to 1:150, in particular

from 200:1 to 1:50, very particularly preferably from **60:1 to 1:20** (column 9, lines 6-8). Hacker et al. teach that the combinations of compounds (A) and (B) can be formulated in various ways which are wettable powders (WP), emulsifiable concentrates (EC), **aqueous solutions (SL)**, emulsions (EW) such as oil-in-water and water-in-oil emulsions, sprayable solutions or emulsions, oil- or water-based dispersions, suspoemulsions, dusts (DP), seed-dressing materials, granules for soil application or spreading, or water-dispersible granules (WG), ULV formulations, microcapsules or waxes (column 13, line 66 bridging to column 14, lines 1-9). Hacker et al. additionally teach the use of surfactants (column 14, lines17 and 18) in the aforementioned herbicide combination.

Brigance teaches an adjuvant composition for pesticide formulations, particularly in N-hosphonomethylglycine (**glyphosate**) herbicidal formulations (abstract). Brigance teaches that the adjuvant composition comprises polyoxyalkylene aliphatic amine compounds of formula (I)

Formula I

wherein R1 is an alkyl or alkenyl group having from 6 to 22 carbon atoms, R2 is an alkylene group having from 2 to 4 carbon atoms, and x and y are numbers such that x+y has an average value of from about 2 to about 50 (claims 29, 33, 37-39, 42, 51, and section (i) of claim 53, a dialkoxylated amine of instant application). Brigance teaches that the adjuvant or surfactant typically used has a concentration from about 120 to

about 180 grams/L ([0017]. Brigance teaches examples of pesticides with which the adjuvant can be formulated includes **glyphosate** and **picloram** ([0018],). Brigance teaches that the water soluble salts of glyphosate such as sodium and potassium are normally used for most applications due to glyphosate's limited water solubility when in acid form [0019]). Brigance teaches making the adjuvant composition into a concentrate and diluting the concentrate with water when ready for use to form an aqueous pesticidal composition ([0018], claim 62 of instant application). Brigance teaches the herbicidal composition comprising about 50 to about 500 grams acid equivalent /L , preferably between about 360 to about 500 grams acid equivalent/L ([0069]). Additionally, Brigance teaches the formulations being used for killing and/or controlling the growth of weeds ([0020]).

Jimoh teaches stable, liquid concentrate herbicidal compositions comprising a water-soluble herbicide in a continuous aqueous phase and an oil-soluble herbicide in a discontinuous oil phase (abstract). Jimoh teaches the use of water-soluble herbicides such as **clopyralid**, picloram, triclopyr, and the especially preferred use of glyphosate or its salts (i.e. ammonium, C1-6 alkylammonium, C1-C6 alkylsulfonium, sodium and potassium, [0030]). Jimoh teaches that the liquid concentrate herbicidal composition can optionally contain more than one water-soluble herbicide in solution in the aqueous phase ([0029]). Jimoh teaches the use of oil-soluble herbicides such as **dithiopyr** and **thiazopyr** ([0011] and [0012]). Jimoh teaches the oil-soluble herbicide being present in a concentration such that the weight ratio of water-soluble herbicide (glyphosate) to oil-soluble herbicide (dithipyr and thiazopyr) ranges from about 190:1 to about 1:1 ([0038]).

Additionally, Jimoh teaches the use of at least one surfactant ([0051-0055]) and a method wherein the liquid concentrate herbicidal composition is applied to weeds or unwanted plants such as kudzu ([0076]).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

One difference between the invention of the instant application and that of Hacker et al., Brigance, and Jimoh is that Hacker et al., Brigance, and Jimoh do not expressly teach a herbicidal composition wherein the concentration of the surfactant is not greater than 3.9 g/L (limitation of instant claim 37).

Another difference between the invention of the instant application and that of Hacker et al., Brigance, and Jimoh is that Hacker et al., Brigance, and Jimoh do not expressly teach a herbicidal composition wherein the composition contains no effective amount of an organic solvent (limitation of instant claims 68-70). However, herbicidal compositions that contain no effective amount of an organic solvent was known in the prior art. For example, Fiard teaches aqueous plant-protection compositions that comprise at least one water-solube plant- protection active substance such as glyphosate, sucroglycerides , at least one surfactant and water (see claims 1 and 2 of Fiard)..

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to arrive at an aqueous herbicidal composition comprising glyphosate or a derivative thereof, a pyridine analog or derivative thereof selected from the group consisting of triclopyr, clopyralid, dithiopyr, thiazopyr, and picloram, and at least one surfactant having a concentration not greater than 3.9 g/L. Glyphosate herbicidal combinations are well known to one of ordinary skill in the art as taught by Jimoh , Brigance, and Hacker et al. Although the aforementioned references do not teach the use of the surfactant concentrations as claimed in the instant application, absent a showing of unexpected results, it would be obvious to one of ordinary skill in the art to vary the concentration amounts depending on the desired result and plant species. Determining optimal concentrations of the herbicidal composition components is routine experimentation and is readily practiced by one of ordinary skill.

The teachings of Hacker et al., Brigance, Jimoh and Fiard are directed to plant protection compositions comprising glyphosate Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to combine the teachings Hacker et al., Brigance, Jimoh and Fiard to arrive at a herbicidal composition that contains no effective amount of an organic solvent. Fiard et al. teach that their compositions occupy a very good position from the ecotoxicological standpoint since they do not contain an organic solvent (see page 16,lines 14-20). One would have been motivated to make this combination in order to receive the expected benefit of having a herbicidal composition that is not toxic to the environment due to the absence

or low amount of organic solvent present. Therefore, given the state of the art as evidenced by the teachings of the cited references, and absent any evidence to the contrary, there would have been a reasonable expectation of success in combining the teachings of the cited references to form a herbicidal formulation.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the teachings of the cited references, especially in the absence of evidence to the contrary.

Examiner's Response to Applicant's Remarks

Applicant's arguments, filed November 9, 2010, with respect to the 103 rejection of claims 29,46,62 and 68-70 under 35 U.S.C. 103(a) as being unpatentable over Hacker et al. (US Patent 6,677,276 B1) in combination with Brigance (US 2002/0155953 A1) and Jimoh (US 2003/0004063 A1) have been considered but are moot in view of the new ground(s) of rejection.

. However, the Examiner has addressed Applicant's arguments since the teachings of Hacker, Brigance and Jimoh have been used in the instant rejection.
In reference to Hacker, Applicant argues that:
(i) Hacker discloses a broad range of herbicide combinations
(ii) Hacker would not have suggested to one skilled in the herbicide arts that the combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy.
(iii)Hacker would not have provided any guidance, suggestion or starting point to one skilled in the art for selection of the narrowly claimed weight ratio range of glyphosate to pyridine analog herbicide of (most broadly) 7:1 to 20:1.

However, the Examiner disagrees with the arguments pertaining to Hacker because Hacker et al. teach herbicide combinations (A)+(B), with an effective content of (A) herbicides from the group (A2) glyphosate (salts)(preferably its alki metal salt s or salts with amines, in particular glyphosate isopropylammonium (see column 2, lines 20-33) and the sodium salt of glyphosate (column 5, line 15) and (B) herbicides from the group (B2) predominantly foliar-acting herbicides, such as quinmerac, clopyralid, pyridate and ethametsulfuron-methyl, which are active against dicotyledonous harmful plants (see abstract). Hacker et al. teach that the aforementioned herbicide combination is in the range of 20 to 2000, preferably 20 to 1000, in particular 20 to 800, g of A.S./ha (column 5, lines 13-32) and that quantitative ratios of (A2):(B2) of particular interest is from 2000:1 to 1:250, preferably from 1000:1 to 1:150, in particular from 200:1 to 1:50, very particularly preferably from 60:1 to 1:20 (column 9, lines 6-8). In

reference to the claimed ratios of the herbicidal actives, the adjustment of particular conventional working conditions is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan. Accordingly, one skilled in the art at the time the invention was made would have been motivated to make this type of modification as being well within the purview of the skilled artisan and no more than an effort to optimize results. Therefore, the claimed invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by Hacker et al.

Applicant's argument regarding Hacker not suggesting that a combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy has been addressed in the Examiner's Response to Dr. Wright's 1.132 Declaration.

In reference to Jimoh, Applicant argues that:

(i) Jimoh discloses a broad range of herbicide combinations

(ii) Jimoh does not recognize the problem of antagonism between glyphosate and pyridine analog herbicides

(iii) Jimoh would not have suggested to one skilled in the herbicide arts that the combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy.

(iv) Jimoh would not have provided any guidance, suggestion or starting point to one skilled in the art for selection of the narrowly claimed weight ratio range of glyphosate to pyridine analog herbicide of (most broadly) 7:1 to 20:1.

However, the Examiner disagrees with the arguments pertaining to Jimoh because Jimoh teaches the use of water-soluble herbicides such as clopyralid, picloram, triclopyr, and the especially preferred use of glyphosate or its salts (i.e. ammonium, C1-6 alkylammonium, C1-C6 alkylsulfonium, sodium and potassium, [0030]). Jimoh teaches that the liquid concentrate herbicidal composition can optionally contain more than one water-soluble herbicide in solution in the aqueous phase ([0029]). Jimoh teaches the use of oil-soluble herbicides such as dithipyr and thiazopyr ([0011] and [0012]). Jimoh also teaches the oil-soluble herbicide being present in a concentration such that the weight ratio of water-soluble herbicide (glyphosate) to oil-soluble herbicide (dithipyr and thiazopyr) ranges from about 190:1 to about 1:1 ([0038]) and the use of at least one surfactant ([0051-0055]).

Applicant's argument regarding Jimoh not suggesting that a combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy has been addressed in the Examiner's Response to Dr. Wright's 1.132 Declaration.

In reference to Brigance, Applicant argues that:

(i) Brigance discloses a broad range of herbicide combinations

(ii) Brigance does not recognize the problem of antagonism between glyphosate and pyridine analog herbicides

(iii) Brigance would not have suggested to one skilled in the herbicide arts that the combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy.

(iv) Brigance would not have provided any guidance, suggestion or starting point to one skilled in the art for selection of the narrowly claimed weight ratio range of glyphosate to pyridine analog herbicide of (most broadly) 7:1 to 20:1.

With regard to Brigance, the Examiner agrees with Applicants argument that Brigance does not teach the instantly claimed weight ratios. However, Brigance teaches a herbicidal combination comprising the instant active components as well as the instantly claimed surfactant. Brigance teaches examples of pesticide compositions including glyphosate and picloram with which the adjuvant can be formulated ([0018]). Brigance teaches that the water soluble salts of glyphosate such as sodium and potassium are normally used for most applications due to glyphosate's limited water solubility when in acid form [0019]). Brigance additionally teaches the herbicidal composition comprising about 50 to about 500 grams acid equivalent /L , preferably between about 360 to about 500 grams acid equivalent/L ([0069]).

Applicant's argument regarding Brigance not suggesting that a combination of glyphosate and a pyridine analog herbicide provides lack of antagonism or synergistic herbicidal efficacy has been addressed in the Examiner's Response to Dr. Wright's 1.132 Declaration.

For other arguments on pages **21-40**, please refer to the instant rejection.

Examiner's Response to Dr. Wright's Declaration of Facts Filed Under 37 C.F.R. 1.132

Dr. Wright's Declaration Filed Under 37 C.F.R. 1.132 filed on November 9, 2010 has been fully considered but is not persuasive.. Dr. Wright argues that herbicidal efficacy associated with combinations of herbicide species from two herbicide classes (e.g., glyphosate and a pyridine analog) is unpredictable and biological incompatibility frequently occurs. Dr. Wright argues that the cited Hacker patent acknowledges that unpredictability at column 1:45-49 stating that "phenomena of physical and biological incompatibility, for example lacking stability of a coformulation, decomposition of an active ingredient or antagonism of the active ingredients, occur not infrequently when using several active ingredients in combination." Dr. Wright concludes that because of the unpredictability in the art and in view of the common general knowledge in the art regarding antagonism, experimental evidence is typically required to support a broad allegation of synergy resulting from the combination of herbicides from two or more classes of herbicides. The Examiner agrees with Dr. Wright's arguments because an analysis of the data shows that the combination of glufosinate and the pyridine analog herbicide clopyralid, where glufosinate is in weight percent excess, is antagonistic on control of Chenopodium album thereby expressly contradicting Hacker's assertion of synergy. In addition, Applicant has shown that the combination of **glyphosate + triclopyr** provides synergy in the claimed ratio of 7.6:1 to about 20:1. However, the recited genus of "a pyridine analog herbicide" is very broad and the provided evidence is not commensurate in scope with this broadly claimed genus.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney A. Brown whose telephone number is 571-270-3284. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fereydoun Sajjadi can be reached on 571-272-3311. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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